

NAVAL WAR COLLEGE
Newport, R.I.

SHIP-TO-OBJECTIVE MANEUVER: THE STRENGTH OF AN IDEA

by

Mark E. Monroe

Lieutenant Colonel U.S. Marine Corps

A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the department of the Navy.

Signature



13 February 1998

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

19980709 067

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority: N/A			
3. Declassification/Downgrading Schedule: N/A			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title (Include Security Classification): (U) SHIP-TO OBJECTIVE MANEUVER: THE STRENGTH OF AN IDEA			
9. Personal Authors: Lieutenant Colonel Mark E. Monroe, U.S. Marine Corps			
10. Type of Report: FINAL		11. Date of Report: 13 February 1998	
12. Page Count: 23			
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: SEA-BASING, PRINCIPLE OF MANEUVER IN AMPHIB OPS, FORCIBLE ENTRY, JOINT UTILITY			
15. Abstract: Ship-to-objective maneuver (STOM) is the tactic that provides the joint force commander (JFC) with the capability to employ the Marine air-ground task force (MAGTF) in an exponentially more efficient and potent manner, with the leverage and flexibility to achieve operational objectives across a broad range of operations. Current amphibious doctrine relies on attrition warfare and the philosophy of amphibious lodgment. The traditional phases and sequences involved in securing a beachhead often negate any advantage gained by maneuver at sea. STOM exploits emerging technology to employ the concepts of maneuver warfare, projecting the power of a combined arms force by air and surface means directly against operational objectives. STOM tactics focus on the principles of maneuver and sea-basing. Force structure and technology serve as enablers of STOM tactics and doctrine. The real power of STOM lies in the strength of the concept and the application of STOM principles. The potential of the STOM concept has been proven utilizing current forces and equipment in the "Hunter Warrior" experimental exercises. STOM is not just a new amphibious tactic, but an enabler and force multiplier for the JFC. STOM tactics enable the MAGTF to fill a void in the JFCs operational capability between special operations and conventional warfare. In the absence of adjacent or advanced theater bases or supporting infrastructure, amphibious forces employing STOM provide the only self-sustainable forcible entry capability for the JFC.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19. Telephone: 841-6461		20. Office Symbol: C	

Abstract of

SHIP-TO-OBJECTIVE MANEUVER: THE STRENGTH OF AN IDEA

Ship-to-objective maneuver (STOM) is the tactic that provides the joint force commander (JFC) with the capability to employ the Marine air-ground task force (MAGTF) in an exponentially more efficient and potent manner, with the leverage and flexibility to achieve operational objectives across a broad range of operations.

Current amphibious doctrine relies on attrition warfare and the philosophy of amphibious lodgment. The traditional phases and sequences involved in securing a beachhead often negate any advantage gained by maneuver at sea. STOM exploits emerging technology to employ the concepts of maneuver warfare, projecting the power of a combined arms force by air and surface means directly against operational objectives.

STOM tactics focus on the principles of maneuver and sea-basing. Force structure and technology serve as enablers of STOM doctrine and tactics. The real power of STOM lies in the strength of the concept and the application of STOM principles. The potential of the STOM concept has been proven utilizing current forces and equipment in the "Hunter Warrior" experimental exercises.

STOM is not just a new amphibious tactic, but an enabler and force multiplier for the JFC. STOM tactics enable the MAGTF to fill a void in the JFCs operational capability between special operations and conventional warfare. In the absence of an adjacent or advanced theater bases or supporting infrastructure, amphibious forces employing STOM provide the only self-sustainable forcible entry capability available to the JFC.

Ship-to-Objective Maneuver (STOM) is the tactic that provides the joint force commander (JFC) with the capability to employ the Marine air-ground task force (MAGTF) in an exponentially more efficient and potent manner, with the leverage to achieve operational and strategic objectives across a broad range of military operations. This paper presents a brief historical basis for STOM, explains its key principles and strengths, analyzes its limitations, and explores the features of STOM that make it such a valuable force option for the JFC.

Introduction

In 1925 Winston Churchill wrote the following memorandum to Parliament from his post as Chancellor of the Exchequer.

It is not necessary in the present state of the world that our Naval organisation should be complete and perfect in all respects, ready at a moments notice to spring into full warlike action. During a long peace, such as follows in the wake of great wars, there must inevitably develop gaps in our structure of armaments. We have to select the essential elements of war power from amidst great quantities of ancillary and subsidiary improvements. These gaps can be gradually and unostentatiously filled up if deep international antagonisms, the invariable precursors of great wars, gradually become apparent in the world.¹

World War One was over, and Churchill wanted to turn to the business of social reform. He argued that a "one-power [military] standard" was too expensive to maintain. The British military was down-sized and reformed. Post-war global and local economies of the era were subject to wild fluctuations. There was an uncertain threat from Asia, and no popular support at home for an increase in military spending.

The United States is in much the same position as that of England in the 1920's, in "a long peace such as follows in the wake of great wars." Our last "great war" ended with the Cold War. Global economies are subject to unsettling fluctuations. There is popular sentiment that the next significant threat may be from Asia. Military spending and force structures are reduced in favor

of increases in social spending and reform. In the face of these challenges to national or regional security, how may the unified commander (CinC) respond?

Churchill took the view that “we have to select the essential elements of war power from amidst great quantities of ancillary and subsidiary improvements.”² The improvements which he spoke of involved emerging technology (new aircraft, ships, sensors, and radios), not unlike today. Technological advances enhance capability, and demand innovation in doctrine and tactics. The compelling difference between yesterday and today’s “long peace” is the opportunity for concepts in doctrine and tactics to drive the course of technological advancements. STOM is such a concept.

For the JFC, the challenge of regional threats to security may appear any time, anyplace. Large scale conventional armed conflict seems unlikely in the near future, but he must be prepared to meet it. Terrorism is on the rise from without and within, with the threat ranging from hostages to weapons of mass destruction. Then there are those “international antagonisms” which Churchill described, such as Bosnia, and quite possibly Algeria, which challenge those “gaps” which “inevitably develop in our structure of armaments.”

STOM is the tactic that serves to fill those gaps in our structure of armaments. It is the answer for the many regional challenges facing the unified commander. With STOM doctrine and tactics and the benefits of emerging technology give the JFC greater operational capability. But this paper is not about changing our force structure to fill gaps in a structure of armaments. It is about a tactic the JFC may use to employ fewer forces with an exponential capability in relation to their size to meet a myriad of challenges, from military operations other-than-war (MOOTW) to conventional warfare.

Historical Background

STOM is the product of evolutionary thought in amphibious doctrine and tactics, and the distant relative of Operation Plan 712, and Phib-31. Operations Plan 712 was officially approved on July 23, 1921. It was the guide to Marine strategy in the Pacific, based on the vision and recommendations of U.S. Marine Major Earl H. "Pete" Ellis. Ellis accurately predicted Japan's offensive strategy in the Pacific, and foresaw that the Marine Corps would find a mission in amphibious assault to secure bases for operations in the Pacific.³ The doctrine of Operation Plan 712 espoused amphibious assault, lodgment, then subsequent operations ashore.

Amphibious Operations-Employment of Helicopters was the thirty-first in a series of manuals on amphibious operations, and referred to as Phib-31.⁴ Phib-31 was published in November of 1948. It was conceived in 1947 after military planners realized that the U.S. would not for long be the sole possessor of an atomic weapon. The amphibious doctrine and tactics which had served so well in the Pacific was helplessly vulnerable to the devastating effect of an atomic weapon. New amphibious doctrine and tactics were focused on dispersal to avoid the atomic threat. Thus Phib-31 was born for the purpose "to explore the various aspects of helicopter employment, discerning the manner in which the characteristics of the vehicle can best be exploited to enhance the effectiveness of amphibious attack..."⁵

While the objective of amphibious assault was still only the basis for lodgment, then subsequent operations ashore, in the words of the visionaries of this time we see the seeds of the STOM concept.

Consider the complication of defense planning when the (amphibious) attacker is capable of utilizing the third dimension. The attacker could then strike from any direction at any point and in any strength. Thus, the helicopter enables the attacker to choose the point of contact-to hit the defender where it will hurt him most.

The speed of helicopters would permit them to depart from the ships while they were well out to sea-out of visual sight, or possibly out of radar contact range - and still be able to achieve the necessary concentration of force at the point of impact. In addition to the obvious element of surprise which this would add, the ships will have maneuvering space...⁶

These words were written in 1953 by Major Archie J. Clapp, U.S. Marine helicopter and jet pilot, based on his observations of the limited helicopter operations conducted during the Korean war. By simply exchanging MV-22 for helicopter in the previous passage one might imagine they were reading a paragraph straight from the Operational Maneuver from the Sea (OMFTS) concept paper. The capabilities of the conventional helicopter of the time, the HO3S "flying banana" was a far cry from the MV-22, but this statement shows that the strength of the STOM concept has a historical precedent.

Amphibious operations involving the traditional phases and stages are a cumbersome and complex task best left to highly trained and skilled professionals. Tied to amphibious lodgment, they often demanded a heavy toll of attrition. Any operational advantage gained by maneuver of the landing force while at sea is often nullified by the cost in time spent gaining a beachhead.

The tactics and doctrine of OPLAN 712 and Phib-31 were fine for their time, but present some serious problems for the modern JFC. These plans were designed to counter the threat of large power in a setting of conventional or atomic warfare. The threat of today is not so well defined. It may take the form of major regional conflict (MRC) or unrest, weapons of mass destruction (WMD), or terrorism. Faced with these sorts of threats, the JFC needs a force that is responsive, agile, and when required, lethal. STOM gives the JFC the ability to respond quickly and decisively with a credible deterrent, and, should deterrence fail, immediately available combat power.

Ship-to-Objective Maneuver

The U.S. Marine Corps concept for naval power projection is outlined in OMFTS. The tactical implementation of OMFTS is Ship-to-Objective Maneuver, or STOM. The STOM concept was first formally introduced in the November, 1997 Marine Corps Combat Developmental Command (MCCDC) Concept Paper, A Concept for Ship-To-Objective Maneuver.⁷ MCCDC's "Tentative Landing Operations Manual 2014" (TLOM 2014) (draft) contains the detailed underpinnings of STOM doctrine and tactics.⁸ STOM tactics employ the concepts of maneuver warfare and sea-basing to project a combined arms force, by air and surface means, against inland operational objectives.⁹ It is a new tactical concept for forcible entry operations. Instead of securing a beachhead and subsequent tactical objectives before reaching an operational objective, STOM focuses directly on the operational objective. Where current amphibious doctrine and tactics often rely heavily on attrition warfare, STOM applies maneuver warfare. STOM exerts leverage directly against the enemy's operational center of gravity, or as Major Clapp said, "hitting the defender where it hurts him most."

STOM is the Marine Corps tactical employment vision for the MAGTF. The MAGTF is a task organized combined arms unit composed of a command element, an air combat element, a ground combat element, and a combat service support element. The MAGTF typically operates from the assault ships of the U.S. Navy amphibious forces to perform forcible entry missions. The size of the MAGTF may vary by virtue of its task organization.

Modern enemy combined arms forces supported by integrated air and coastal defense systems pose the greatest threat to amphibious landing forces. The aim of STOM is to permit the MAGTF to continue the momentum gained by maneuver at sea in a seamless transition to

maneuver over land which avoids enemy defensive concentrations and strikes directly at critical vulnerabilities or the enemy center of gravity through a combined vertical and surface assault.

Principles of STOM

Force structure and technology are only enablers of STOM doctrine and tactics. The real power of STOM lies in the strength of the concept and the application of STOM principles. The principles of STOM portend the power and flexibility STOM gives the JFC. The principles of STOM are:

- STOM focuses on the operational objective.¹⁰ And, because it is no longer tied to phased operations and the establishment of an amphibious lodgment, the landing force is free to concentrate either on the enemy center of gravity directly, or a critical vulnerability.
- STOM treats the sea as maneuver space.¹¹ In the past, amphibious surface movement was limited to direct ship-to-shore movement on a suitable landing beach, with the landing force in sight of shore and subject to bombardment. Approach and movement in STOM begins from over the horizon (OTH), and may maneuver to avoid enemy observation and fires.
- STOM creates overwhelming tempo and momentum.¹² With a combined vertical and surface assault in complementary actions that fix, confuse, or neutralize the enemy, he continually faces dilemmas and a tempo of operations that deny him control of the battle. Initial surprise is built upon to keep the enemy off-balance and reactive.
- STOM applies strength against weakness.¹³ STOM projects combat power through gaps located or created in the adversary's forces.
- STOM emphasizes intelligence, deception, and flexibility.¹⁴ OMFTS exploits preassault operations to deceive the enemy, determine his positions, attack his critical vulnerabilities, and

initiate actions to gain battlespace dominance. These operations are executed specifically to find or create exploitable gaps.

- STOM integrates all elements in accomplishing the mission.¹⁵ Whether operating in a joint or combined environment, the amphibious task force will employ STOM to maximize the effectiveness of the landing force. STOM allows the ATF to act as a stand alone response, in combination with another force, or as an enabler for follow-on forces.

Sea-Based Strength

Another strength of STOM is its sea-based character.¹⁶ Command and control and logistic support remain at sea, while the fighting force maneuvers inland unfettered by amphibious lodgment. Sea-basing avoids the manpower and equipment requirements of command elements, logistic bases, and airfields ashore, and the lucrative targets they present. With no command centers or logistical bases ashore to protect, more assets and troops are free for the assault, contributing to the tempo and momentum of the attack. Presently, amphibious assault shipping must approach to within ten thousand yards of the beach to launch amphibious assault vehicles. With STOM, the assault begins from OTH, maximizing surprise and security for the assault force.

In a sustained operation, some degree of logistical support or command infrastructure may need to come ashore, but with sea basing and STOM tactics the commander has complete flexibility and control over this event. Because the MAGTF executes STOM from OTH, the introduction of Maritime Prepositioning Ships (MPS) into theater under the protection of the Amphibious Task Force (ATF) is possible. This will allow the MAGTF to conduct STOM operations repeatedly, without the operational pause of returning to a base for reconstitution. In

the concept paper Maritime Prepositioning Force(MPF) 2010 and Beyond, the Marine Corps proposes that MPS

will provide indefinite sustainment by serving as a sea-based conduit for logistics support. This support will flow from bases located in the U.S. or overseas, via the sea base provided by MPF 2010 and Beyond, then on to Marine units conducting operations ashore or at sea...Upon mission accomplishment, MPF 2010 and Beyond will conduct in-theater reconstitution and redeployment without a requirement for extensive material maintenance or replenishment at a strategic sustainment base.¹⁷

Because the assault comes from the broad expanse of the sea, the enemy is forced to spread his defenses over his entire coastline, while the attacker is free to choose the weakest point for forcible entry. With STOM, amphibious assaults are not as critically limited by topography or hydrography because of technological advances in amphibious vehicles.

Technology as a STOM Enabler

Much of what the Marine Corps proposes to achieve with STOM is based on emerging technology. Emerging technologies represented by the advanced amphibious assault vehicle (AAAV), MV-22 aircraft, Global Positioning System, and developing command and control systems will radically alter the nature of amphibious operations.¹⁸ Note that with the exception of the AAAV, all of the aforementioned emerging technology exists, and is in operation or the operational test and evaluation stage of development. What this means for the CinC is that full implementation of STOM is "just around the corner." The review of regional plans must incorporate this capability for the very near future.

STOM Serves the JFC

STOM is more than a service ambition for competing funding priority. A Concept for Ship-to-Objective Maneuver states explicitly and outlines specifically how STOM is not just a new

amphibious tactic, but an enabler and force multiplier for the JFC. Under the heading of "Principles," the paper states:

The key element of ship-to-objective maneuver adapts combined arms penetration and exploitation operations to the environment described in OMFTS. The result is littoral power projection that exploits significant improvements in tactical mobility to achieve enhanced combat power, *and provides theater and joint force commanders a greater range of warfighting options.*"¹⁹

The design of STOM gives the JFC a rapid, flexible, and if required, lethal deterrence or offensive option to meet a broad spectrum of theater and regional security needs. In the absence of an adjacent land base, amphibious forces provide the only credible and sustainable forcible entry capability available to the JFC. The tactic of STOM gives the JFC a significant power projection capability while minimizing risk to U.S. forces.

"The force that every CinC wants is one that can get in quick, go deep, 'cap' a crisis, protect itself, and get back out with a minimum of risk to its forces".²⁰ STOM is the only tactic that addresses all these requirements for the JFC. In an area where no advanced base or infrastructure exists, STOM tactics and doctrine offer the JFC a combined arms force capable of forcible entry that is unrestricted by problems of transportation, logistic build-up, host nation liaison and negotiations, overflight rights, and a host of other considerations and coordination nightmares involved with generating a quick and decisive crisis response.

With the elimination of the traditional phases and sequences before reaching the operational objective as in past amphibious doctrine, STOM employs a much "flatter," simpler command and control concept. This is a boon to the JFC. Should an Army or U.S. Air Force officer find himself in command of a joint task force (JTF) incorporating a MAGTF, the simpler nature of STOM will enhance his ability to command an amphibious operation effectively.

During a sustained campaign, a U.S. Marine service component headquarters supports the JFC and facilitates the warfighting functions of the MAGTF. The Marine Component Commander, designated commander, Marine Forces (ComMARFOR) advises the JFC on the status, capabilities, and employment of assigned Marine forces.²¹ A JTF that is established to conduct a large, complex amphibious operation will normally require significant staff augmentation and training.²² However, augmentation may be accomplished without changing the existing command and control system. The cost in time and effort in training personnel would be well spent for the readiness it would provide the JFC.

STOM fills a Void in Operational Capability

STOM tactics enable the MAGTF to fill a void in the JFCs operational capability between Special Operations (SPECOPS) and conventional warfare. That void exists in the lack of ability to take decisive and immediate action in influencing an objective without force prepositioning or mobilization of troops and equipment not already in theater. It is the unique sea based character of STOM as a tactic that provides this capability. With any other force option there are significant coordination issues that must be considered. With a MAGTF executing STOM, the JFC has a force ready to quell a crisis before conditions deteriorate.

The critic will say the same response capability exists with the "expeditionary" forces of other Services. To the degree that the U.S. Army and Air Force have ready brigades or Air Expeditionary Forces ready to deploy on short notice, this is true. All of the Services have a capability to deploy special operations forces for direct action operations. But the MAGTF executing STOM is able to put troops on the terrain, *supply* and *protect* them, *extract* and

redeploy that force, all with *organic assets* under the *same commander*, either as a stand alone response or as an enabler for follow on joint or combined forces.

To fill this operational void the MAGTF operates as an operational maneuver element (OME). The MAGTF operating as an OME, with the ability to deploy, sustain, and protect itself gives the JFC a highly mobile and potent force. Employed as an OME, the MAGTF constitutes a unique sea-based capability for the JFC, maintained in immediate readiness to exploit significant advantages created by the activities of other components of the joint force.²³ Executing STOM in this role, the MAGTF may be assigned operational-level missions which will play a decisive role in a CinCs campaign plan.

The MAGTF executing STOM is ideally suited to function in three general capacities to aid the JFC in filling this operational void: as an enabling force, decisive force, or exploitation force.²⁴

- Enabling Force. The MAGTF conducts enabling operations to pave the way for follow-on operations by other elements of the joint force. The MAGTF may be used to secure an inland airfield, facilitating the introduction of follow-on forces and supplies. Enabling operations are not limited to the opening phases of an operation or campaign. A simultaneous attack by the MAGTF executing STOM on an enemy critical vulnerability such as a command and control node could enable the success of a strike from a battle group or adjacent air base
- Decisive Force. Decisive actions run the gamut from the destruction of enemy military forces to interdiction of critical lines of communication, to the evacuation of non-combatants. The unique task organization of the MAGTF allows the JFC to choose and tailor his forces from within a single source to take decisive action.

- Exploitation Force. In this capacity, the MAGTF as an OME takes advantage of opportunities created by the activity of other joint force components. For example, after an air strike against an enemy force, the MAGTF could immediately move troops and equipment in to exploit the shock of the strike, continuing the tempo and momentum of the attack. STOM enables the MAGTF to react quickly to exploit successes gained by other elements of the force.

Issues and Challenges

For all the promise STOM holds there are issues that will pose challenges for the JFC. In April of 1997 a Ship-to-Objective Maneuver War Game conducted at the Marine Corps Combat Development Command in Quantico, Virginia.²⁵ The purpose of the game was to examine the capability to conduct the functional concept of STOM in support of the operational concept of OMFTS. The game sought to create an environment and situations in which a Marine Expeditionary Unit (MEU) size MAGTF executing STOM would encounter a capable and vigorous opposition.²⁶ Though the game addressed only the ability of the Navy and Marine Corps to successfully integrate STOM concepts in support of an amphibious operation, it highlighted issues that may be of concern for the JFC at the operational level. In an after action analysis report of the war game, principle assessments included:

- “Current (Navy/Marine Corps) command organization and relationships need refinement and must be resolved for any future progress to be made.”²⁷ There are two schools of thought on the issue of ATF command relationships. The first, represented in an article in the November 1997 Proceedings, espouses “that a Navy commander should be and will be in charge of naval maneuvers on the sea and from the sea.”²⁸ The author argues “One of the still-fundamental

concepts of a successful amphibious assault is unity of command.”²⁹ This is representative of the supporting-supported philosophy of command, where the commander remains the same throughout the operation (unless or until the landing force phases ashore) with the main effort shifting between naval and landing forces during different phases of the operation.

The second school of thought holds that the current ATF command structure is outdated. In his article, “Let CLF* Do It”, Lieutenant Colonel Thomas X. Hammes writes “We cling to this command structure despite the fact it was designed to fight a *naval* opponent in a maritime theater and clearly does not lend itself well to supporting a land campaign in a land theater”.³⁰

He argues:

We must use the same philosophy that drove earlier planners to put CATF** in charge. CATF was the main effort, defending the fleet from enemy naval and air assets. Today, the landing force is clearly the main effort. The commander of the landing force must become the overall commander of the amphibious task force.³¹

Whatever direction amphibious task force command relationships take the JFC needs to be aware of the issues on both sides of the argument to be able to make informed decisions when conflicts arise. “TLOM 2014” states:

JFCs may also establish supporting and/or supported relationship among components to facilitate operations. Regardless, the establishing JFC defines the authority and responsibilities of functional component commanders on the basis of the concept of operations and may alter their authority and responsibility during the course of an operation.³²

- “STOM success becomes highly dependent on efficient and effective information management.”³³ The implication here is that the ever increasing amount of information available to the warfighter is becoming increasingly difficult to manage. This problem is not

* Commander of the Landing Force.

** Commander of the Amphibious Task Force.

unique to STOM. The warfighter at all levels needs a single-source intelligence and information center capable of continual updates, where he can pull information as needed. Battlespace dominance is always dependent on effective information management.

- “STOM is technology dependent, particularly as it applies to information management, risk assessment, and battle damage assessment (BDA).”³⁴ Paradoxically, it is the speed of a STOM operation that makes these factors a problem. Information, risk, and BDA must be rapidly assessed for the overwhelming tempo and momentum of a STOM operation to continue. Commanders will always be faced with these sorts of challenges, and technology will only address part of the problem. The MAGTF may depend on technology for the speedy transmission of information, possible risks, and BDA, but it will look to the commander and his intuition for the application of these factors.

- STOM is critically dependent on fire support and battlefield shaping.³⁵ This factor becomes more critical the higher the level of combat for a given scenario. STOM is by design critically dependent upon *maneuver* for success. It is the aim of STOM to enhance the capability of lighter more agile forces to operate in a hostile environment without massive fire support. Remember that with STOM, fires are concentrated to facilitate maneuver, not attrition. When there is critical need for massive fire support outside that organic to the ATF or MAGTF, STOM may not be the best force option. STOM may require higher volume and more accurate fires than those currently available to the MAGTF. Until those fire support capabilities become organic to the ATF in support of STOM, the JFC has some readily available theater assets to augment the MAGTF executing STOM. The first and most logical asset option would be to

reinforce the ATF with assets from a carrier battle group. Another fire support option of a joint flavor may include assets from an Air Expeditionary Force.

The implementation of a new tactic seldom survives operational test and evaluation intact, and STOM is no exception. What should be remembered is that in this age of force downsizing and restructuring, the JFC has the opportunity to use fewer men and equipment to maintain peace, establish regional security, or employ force *on the strength of an idea*. That idea is STOM.

Conclusions

In the Spring of 1997, "Hunter Warrior," the first in a series of three "Warrior" experiments under the Marine Corps Five Year Experimentation Plan (FYEP) was completed. The "Hunter Warrior" phase of experiments examined extended, dispersed battlespace concepts, and the contribution that a modest MAGTF could make at the operational level of war if provided selected conceptual and technological improvements. Through the use of enhanced targeting, precision fires, C4I enhancements, and a limited deep operational maneuver capability, a MEU-sized force was able to demonstrate a capability to shape the battlefield beyond current force employment options.³⁶ If a MEU-sized unit equipped with current technology employing STOM concepts and tactics can out-perform current force employment options, imagine what a MAGTF equipped with tomorrow's technology may achieve.

By virtue of sea-basing and the principle of maneuver, Ship-to-Objective Maneuver is the tactic that allows a modest force to sustain and protect itself while retaining the potency to leverage operational objectives, and provides the Joint Force Commander with greater operational capability.

Faced with a reduced defense budget in 1925, Churchill advised "We have to select the essential elements of war power."³⁷ In the face of today's military cutbacks and reforms, STOM tactics emphasize essential elements of war power as represented by the principles of war. By sea-basing, the force has *security*, and exercises *economy of force* by freeing assets to participate in the assault. Through the *offensive* and *movement* (maneuver) the force attacks the *objective* directly. Because amphibious lodgment is not required, the force achieves *surprise* and is able to concentrate its *mass* where it is most likely to influence the *objective*. *Simplicity* and *cooperation* are enhanced by the simple nature of the mechanics of STOM.

Recommendations

The real challenges to STOM implementation are not command organization and relationships, information management, technology dependency, risk management, or fire support. Nor does industry's ability to design and produce the required equipment present a problem. The real hurdle is budgetary constraint. *STOM must be sold to the CinCs*. Once the concept is sold to the unified commanders, they will drive the budgetary requirements that will provide the technological advances which will enhance STOM tactics. By demonstrating what can be accomplished with today's technology and equipment based on the strength of STOM tactics, the advantages of the concept will be readily apparent to the CinC.

Meanwhile, the Navy and Marine Corps must continue to implement the concepts and tactics of STOM with the equipment it has, continuing to experiment and build on the idea. STOM concepts and operations should be included not only in the "Warrior" experiments, but in Advanced Warfighting Experiments (AWE) of Marine, joint, and combined exercises.

Summary

It is worth emphasizing that STOM is a tactic, not a piece of gear or technology, that provides a JFC with greater operational capability. The potential of the concept has been proven with today's technology. In his article "Logistical Implications of Operational Maneuver from the Sea," Lieutenant Mark Beddoes, USN, quotes an anonymous writer as saying "A campaign plan that cannot be supported logistically is not a plan at all, but simply the expression of fanciful wishes."³⁸ The anonymous author missed the point. "Pete" Ellis envisioned a Pacific island-hopping campaign plan, before the invention of amphibious tractors to support the campaign logistically or otherwise. It is fortunate that the Marine Corps took Ellis' plan as more than fanciful wishes. STOM, too, is more than a fanciful wish.

Notes

¹ Winston Churchill, quoted in Martin Gilbert, Winston S. Churchill, Volume V: Companion, Part I Documents: The Exchequer Years 1922-1929. (n.p., Houghton Mifflin Company) 366.

² Ibid.

³ Lynn Montross, Cavalry of the Sky: The Story of U.S. Marine Combat Helicopters (New York: Harper and Brothers 1954), 3.

⁴ Ibid., 91.

⁵ Ibid.

⁶ Major Archie J. Clapp USMC, quoted in Montross, 7.

⁷ Colonel Paul K. Van Riper USMC, "A Concept for Ship-To-Objective Maneuver," The Marine Corps Gazette, November, 1997, special feature insert, A-1.

⁸ Marine Corps Combat Developmental Command, n.d., "Tentative Landing Operations Manual 2014," (draft doctrinal publication), Quantico, VA.

⁹ Ibid., 1-2, 1003.a

¹⁰ Ibid., 1-6, 1004.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Colonel Vince Goulding USMC, Director, Concepts Division, Marine Corps Combat Developmental Command, telephone conversation with author, 29 January 1998.

¹⁷ General Charles C. Krulak USMC, "Maritime Prepositioning Force 2010 and Beyond," The Marine Corps Gazette, February 1998, special feature insert, 4.

¹⁸ Van Riper, A-1.

¹⁹ Ibid., [emphasis added].

²⁰ Colonel Robert K. Dobson, Jr. USMC, Director, Doctrine Division, Marine Corps Combat Developmental Command, telephone conversation with author, 30 January 1998.

²¹ Colonel Vince Goulding USMC, n.d., "An Operational Concept for Sustained Operations Ashore," [unpublished Concept Paper for Marine Corps Combat Developmental Command], Quantico VA, 5.

²² "Tentative Landing Operations Manual 2014", 2-4, 2004.j (2).

²³ Colonel Goulding, 2.

²⁴ Ibid.

²⁵ AB Technologies, Inc., Ship-to-Objective Maneuver War Game Analysis Report, [a report prepared for Marine Corps Combat Developmental Command, Studies System Management Branch, Studies and Analysis Division, Alexandria, VA, 24 April, 1997], ES-2.

²⁶ Ibid.

²⁷ Ibid., 29

²⁸ Commander Terry Pierce USN, "Obey the Iron Law," U.S. Naval Institute Proceedings, November 1997, 31.

²⁹ Ibid., 28.

³⁰ Lieutenant Colonel Thomas X. Hammes USMC, "Let CLF Do It," The Marine Corps Gazette, March 1997, 20.

³¹ Ibid., 21.

³² "Tentative Landing Operations Manual 2014," 2-4, 2004.f.

³³ AB Technologies, 29.

³⁴ Ibid.

³⁵ Ibid.

³⁶ A. A. Wood, 28 November 1997, Marine Corps Warfighting Laboratory, "Marine Corps Warfighting Laboratory Urban Warrior Experimental Framework," (draft), Quantico, VA, 1.

³⁷ Gilbert, 366.

³⁸ Lieutenant Mark W. Beddoes USN, "Logistical Implications of Operational Maneuver from the Sea," Naval War College Review, Autumn 1997, Vol. L., No.4, 33.

Bibliography

- A B Technologies. Ship-to-Objective Maneuver Wargame Analysis Report. [A report prepared for Marine Corps Combat Developmental Command]. Alexandria, VA: 24 April 1997.
- Beddoes, Mark W. "Logistical Implications of Operational Maneuver from the Sea." Naval War College Review, Autumn 1997, 32-47.
- Davis, Jeff P. "Ship-to-Objective Maneuver: Will This Dog Hunt?" [final draft of an article submitted to Proceedings for the Arleigh Burke contest], December 1997. Marine Aviation Weapons and Tactics Squadron One. Yuma AZ.
- Dobson, Robert K. Jr. Director, Doctrine Division, Marine Corps Combat Developmental Command. Telephone conversation with author, 30 January 1998.
- Gilbert, Martin. Winston S. Churchill, Volume V: Companion, Part I Documents: The Exchequer Years 1922-26. N.p. Houghton Mifflin Company, 1981.
- Goulding, Vince. Director, Concepts Division, Marine Corps Combat Developmental Command. Telephone conversation with author, 29 January 1998.
- _____. ed. "An Operational Concept for Sustained Operations Ashore" [draft concept paper], n.d. Marine Corps Combat Developmental Command. Quantico VA.
- Hammes, Thomas X. "Let CLF Do It." The Marine Corps Gazette, March 1997, 19-21.
- Hull, Jonathan. "Sell it to the Marines." Proceedings, October 1997, 67-69.
- Krulak, Charles C. "Operational Maneuver from the Sea." Proceedings, January 1997, 26-31.
- _____. "Maritime Prepositioning Force 2010 and Beyond." The Marine Corps Gazette, February 1998, special feature insert.
- Manella, Mark. <manellam@yuma.usmc.mil> "OAS from the Sea Conference Minutes." 28 July 1997. Official e-mail. (25 November 1997)
- Marine Corps Combat Developmental Command, "Tentative Landing Operations Manual 2014" [draft], n.d. Quantico, VA.
- Montross, Lynn. Cavalry of the Sky: The Story of U.S. Marine Combat Helicopters. New York: Harper and Brothers, 1954.
- Pierce, Terry. "Obey the Iron Law." Proceedings, November 1997, 28-31.

Wood, A.A. "Urban Warrior Experimental Framework," [Marine Corps Warfighting Laboratory draft revision 1-2], 28 November 1997. Quantico, VA.

Van Riper, Paul K. "A Concept for Ship-to-Objective Maneuver." The Marine Corps Gazette, November, 1997, special feature insert.